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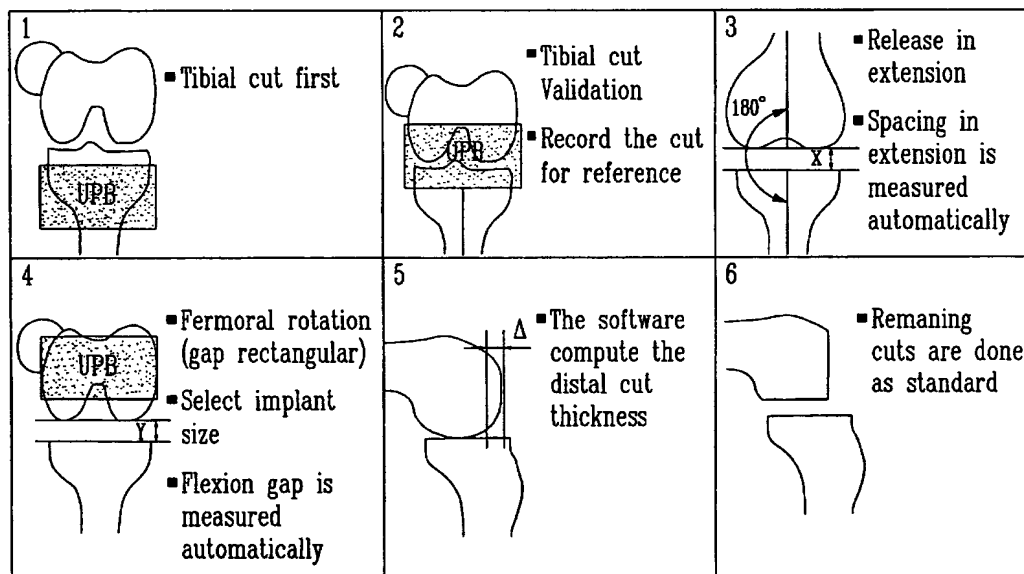
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(54) Title: DETERMINING FEMORAL CUTS IN KNEE SURGERY



(57) Abstract: There is provided a method and system for determining a distal cut thickness and posterior cut thickness for a femur (1) in a knee replacement operation, the method comprising: performing a tibial cut on a tibia (2); performing soft tissue balancing based on a desired limb alignment; measuring an extension gap between the femur and said tibial cut while in extension; measuring a flexion gap between the femur and the tibial cut while in flexion; calculating a distal cut thickness and a posterior cut thickness for the femur using the extension gap and the flexion gap and taking into account a distal thickness and posterior thickness of a femoral implant; and performing said femoral cut according to the distal cut thickness and posterior cut thickness.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/00604

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61B19/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	EP 1 226 788 A (FINSBURY DEV LTD) 31 July 2002 (2002-07-31) the whole document ---	15-26
X	WO 99 60939 A (ORTHOSOFT INC) 2 December 1999 (1999-12-02) the whole document ---	15-26
A	DE 100 31 887 A (STRYKER LEIBINGER GMBH & CO KG) 17 January 2002 (2002-01-17) the whole document -----	15-26

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

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- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA 03/00604

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1-14
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1226788	A	31-07-2002	EP 1226788 A1	31-07-2002
			US 2002115934 A1	22-08-2002
WO 9960939	A	02-12-1999	AU 3924599 A	13-12-1999
			CA 2333393 A1	02-12-1999
			WO 9960939 A1	02-12-1999
			EP 1079756 A1	07-03-2001
			US 6450978 B1	17-09-2002
			US 6533737 B1	18-03-2003
DE 10031887	A	17-01-2002	DE 10031887 A1	17-01-2002